REMARKS/ARGUMENTS

In the Office action of August 9, 2004, the examiner rejected claims 1-32 under 35 U.S.C. §112, second paragraph, and claims 1, 10, 31 and 32 under 35 U.S.C.§101.

Claims 1-32 were originally present for the examination in the above identified application. By this Amendment, Claims 1, 10, 11, 31 and 32 have been cancelled and replaced by new claims 33, 34, 35, 36 and 37, correspondingly. Claims 2 and 12 have been canceled. In making these revisions care has been taken to ensure that no new matter has been introduced.

Applicant appreciates the time and consideration provided by Examiner in reviewing this application, however, respectfully traverses the rejection of claims at least for the following reasons.

Claims rejection under 35 USC §112

In paragraphs 3-5 of the Office Action, the Examiner rejected claims 1-32 under 35U.S.C. §112 as failing to comply with enablement requirement. This rejection is respectfully traversed for the following reasons.

The examiner selects two passages "digital sampled signals" and "smaller than a reversed value of the frame size" from the application, combines them, cites a combined passage (which has no meaning and is out of context of the application), and states that it is not clear from the disclosure and the claims how the reversed value of the frame looks like. Responsive to this statement, it is respectfully submitted that the application does not deal with a reversed value of the frame (which has no meaning), but rather with a reversed value of the *frame size N*. It should be clear that, when the size of the frame is *N*, the reversed value of the size is *1/N*, and there is no need to

visualize how "the reversed value of the frame looks like" in order to make/use the invention. Likewise, when compared with the "reversed value of the frame size", the application refers to the frequency component $\Delta\omega^k$ but not to the "digital sampled signals". As can be clear from the inequation

$\Delta\omega^k N \Delta t \ll 1$ (see (9), page 7, line 22), the frequency components $\Delta\omega^k$ should be in agreement with the following condition: $\Delta\omega^k \ll 1/N\Delta t$, i.e. be substantially smaller than a reversed value of the frame size N multiplied by the sampling time increment Δt. The example presented on page 8, lines 2-4 illustrates that in practice this condition is usually fulfilled.

In paragraphs 7 of the Office Action, the Examiner rejected claims 11-30 under 35U.S.C. §112 as being indefinite. The Examiner requests that "at least one detector" as claimed in claim 11 should be clearly recited as being responsive to the branch computation unit. Claim 35, which replaces now claim 11, is drafted in accordance with the Examiner suggestion, and therefore overcomes the Examiner's rejections.

Applicants submit that the amended claims comply with §112, and therefore request withdrawal of the Examiner's rejection.

Claims rejection under 35 USC §101

In paragraph 9 of the Office Action, the Examiner rejected claims 1, 10, 31 and 32 as directed to a non-statutory subject matter. Applicants submit that claims 34, 36 and 37, which replace original claims 1, 10, 31 and 32, correspondingly, are directed to a method of operating a digital phase locked loop. The claims recite the steps of receiving an input digital sampled signal calculating data indicative of values of analytical functions; storing these data; generating an output signal representing sine I and cosine Q branches of the digital phase locked loop; computing an envelope of the modulated signal; and generating a demodulated signal. Thus, claims 34, 36 and 37 are limited to a

practical application, and Applicants request withdrawal of the Examiner's rejection under 35 USC §101.

In paragraph 10 of the Office Action, the Examiner indicated that U.S. Pat. Nos. 5,159,435; 6,154,483 and 6,735,263 disclose a receiver having sine and cosine generator for extracting the envelope of the received signal. The Applicants submit that the closest prior art to the present application is U.S. Pat. No 6,735,263, assigned to the Applicant. This document also describes a technique for coherent detection and demodulation of FDMA signal employing an array of special digital phase loops. As can be appreciated, the configuration and operation of the digital phase loop module of the present application advantageously differ from the configuration and operation of the technique disclosed in U.S. Pat. No 6,735,263. In particular, according to the present application, the computation operations requiring a heavy computation load, such as calculation of sine and cosine functions, are performed mostly once per a digital sampled signal, while relatively simple operations, such as multiplication and accumulations, are performed repetitively for every frame of the sampled digital signal. To the contrary, the technique disclosed in U.S. Pat. No 6,735,263 requires calculation of sine and cosine functions as well as multiplication and accumulation operations to be performed repetitively for every frame of the sampled digital signal.
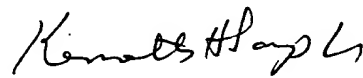
Applicants respectfully submit that the newly added and amended by this Amendment claims completely overcome the examiner's rejections. In accordance with the amendments in the claims and the above comments, reconsideration and withdrawal of the Examiner's rejections is therefore respectfully requested. The application is now in condition for allowance, which allowance is earnestly solicited.

The Commissioner is hereby authorized to charge any additional fees which may be required in this application under 37 C.F.R. §§1.16-1.17 during its entire pendency, or credit any overpayment, to Deposit Account No. 06-

1135. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 06-1135.

Respectfully submitted,

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